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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,036	12/21/2000	Wayne D. Ward	RA-5256	4678

			EXAMINER
27276	7590	05/20/2004	TRUONG, LECHI

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ART UNIT	PAPER NUMBER
2126	8

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.		**Applicant(s)**
Office Action Summary	09/747,036		WARD ET AL.
	Examiner		**Art Unit**
	LeChi Truong		2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 April 2004_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-21_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1. Claims 1- 21 are presented for an examination.

Claim Rejections - 35 USC § 112

The claim 19 are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited . The term is indefinite because the specification does not clearly redefine the term.

As to claim 19, parenthesis (punctuation marks ( )) can not be accepted in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims **1-4, 9-12, 18, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US. Patent 6,308,219 B1) in view of Fishler et al (US. Patent 6,032,267) and further in view of Chowdhary et al (US. Patent 6,675,278 B1).

3.   **As to claim 1,** Hughes teaches the invention substantially as claimed including: a repository of memory (the receive memory 160, col 4, ln 1-67), memory address space (offsets

of memory, col 4, ln50-67, col 5, ln 1-16), entry (node, col 4, ln 1-67), a current value which

indicates a next available entry (a set of entries 211 each of which points to either a subnode 210

or to an associated leaf 220, col 4, ln 1-67), a header memory value (header information used for

routing can include a destination address, col 1, ln 15-25a rood node, col 4, ln 1-67/ col 5, ln 19-

50), current value (the variable of responsive to the nature of the packet traffic, col 4, ln 15-48), a

manager (a receive memory controller 150, col 3, ln 1-5/ col 4, ln 1-49), queue bank X (the

nodes 210 is recorded in multiple banks 300, col 5, ln 25-30/memory bank, col 4, ln 1-67),

token(packet 112, col 30-38/15/25), header memory value(each packet includes a header, col 1,

ln 11-25).

4.   Hughes does not explicit teach X as descriptor, a function for retrieving/ storing,

retrieving any requested queue bank descriptor upon receipt of tendered a token from any client

process which has previously received said token, retrieve a queue bank descriptor

corresponding to said randomly requested queue bank descriptor. However, Fishler teaches

descriptor (message descriptors, col 9, ln 60-65/ Fig. 9/ 10/ pointer, col 12, ln 45-55/col 13,l n 5-

9/a function for retrieving/ storing (GET-Q function/ PUT-Q function, col 7, ln 9-15 / col 9,l n

33-45), retrieving any requested queue bank descriptor upon receipt of tendered a token from any

client process which has previously received said token, retrieve a queue bank descriptor

corresponding to said randomly requested queue bank descriptor (each process has registered

itself with shared memory queuing system and has receiving a module ID. The process use their

a module ID for all interaction with the shared memory, col 6, ln 7-15/ ln 20-27/ it places the

message on an inbound queue for a correct process and awakens the process that is identified in

that queue's creator module ID field, col 6,l n 53-60/depending on the recipient indicated by the

message, and to determine which process to awaken... the process consumer data from an

associated queue... a process consumer message from and inbound queue by calling SM_Q_

GET_MSG, col 7, ln 1-10)

5.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Hughes and Fishler because Fishler's descriptor/ GET-Q

function/ PUT-Q function/ each process has registered itself with shared memory queuing system

and has receiving a module ID. The process use their a module ID for all interaction with the

shared memory would allow processes executing on the same processor to transmit data without

coping the data each time it is transferred and increase an inter-process speed.

6.   Hughes and Fishler do not teach placing the header for the next available entry into the

retuned entry from which said queue bank descriptor had been retrieved / putting the address of

the returned entry into the next available entry. However, Chowdhary teaches placing the header

for the next available entry into the retuned entry from which said queue bank descriptor had

been retrieved / putting the address of the returned entry into the next available entry (since the

third application 9 has been deleted, logical pages 3 and 4 are relocated to the fourth application

10/ col 4, ln 58-57memory compaction has occurred in the logical address space by moving the

fourth application 10 down to fill up the free logical address created by the deletion of the third

application 9, col 5, l n 3-9)

7.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Hughes ,Fishler and Chowdhary because Chowdhary's

since the third application 9 has been deleted, logical pages 3 and 4 are relocated to the fourth

application provide a fixed allocation of memory for the context is either inefficient in use of memory or restrictive in creation of new application or objects.

8.   **As to claim 2,** Hughes teaches an instruction for storing (routing treatments for received, col 3, ln 1-20).

9.   **As to claim 3,** Fishler teaches reading a value and storing value by header (GET-Q function/ PUT-Q function, col 7, ln 9-15 / col 9,l n 33-45).

10.   **As to claim 4,** Fishler does not explicit teach a functionality for clearing a value (GET-Q function, col 7, ln 9-15 / col 9,l n 33-45)

11.   **As to claim 9,** Hughes teaches tokens have a size to hold (packet length and priority for the packet, col 1, ln 10-25).

12.   **As to claim 10,** it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above.

13.   **As to claim 11,** Hughes teaches reading (routing treatments for transmission, col 4, ln 1-67), storing (routing treatment for receiving, col 4, ln 1-67).

14.   **As to claim 12,** Hughes does not teach token include an indication of said last available entry address location (packet length and priority for the packet, col 1, ln 10-25).

15.   **As to claim 18,** it is an apparatus claim of claim 1. Therefore, it is rejected for the same reason as claim 18 above. In addional, Hugher teaches retrieving queue bank (routine treatments for packets for transmission, col 4, ln 1-15), establishing said retrieved queue bank (tree structure 200 is designed, col 4, ln 1-67).

16.   **As to claim 20,** they are apparatus claims of claims 10 and 18; therefore, they are rejected for the same reasons claims 10, 18 above.

17.   Claims **5, 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US.

Patent 6,308,219 B1) in view of Fishler et al (US. Patent 6,032,267) and further in view of

Chowdhary et al (US. Patent 6,675,278 B1) and further in view of Faris et al (US. 5,488,359).

18.   **As to claim 5,** Hughes, Fishler and Chowdhary do not explicit teach a status indicating

the repository is full. However, Faris teaches an indication of memory full (col 2, ln 1-35).

19.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Hugher, Fishler, Chowdhary and Faris because Faris's an

indication of memory full would avoids an unnecessary deletion of previously stored message.

20.   **As to claim 13,** Faris teach a status indicating the repository is full (an indication of

memory full, col 2, ln 1-35).

21.   Claims **6, 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US.

Patent 6,308,219 B1) in view of Fishler et al (US. Patent 6,032,267) and further in view of

Chowdhary et al (US. Patent 6,675,278 B1) and further in view Jitsupou (extended memory

address control system).

22.   **As to claim 6,** Hughes, Fishler and Chowdhary do not teach an operating system to

allocate a new space. However, Jitsupou teaches an operating system to allocate a new space (the

extended memory be handed by operating system, page 1).

23.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching Hughes, Fishler and Chowdhary and Jitsupou because

Jitsupou's the extended memory be handed by operating system would improves access

performance.

24.   **As to claim 16,** Jitsupou teaches provides for more available entry address locations (the

extended memory be handed by operating system, page 1).

25.   Claim **7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US.

Patent 6,308,219 B1) in view of Fishler et al (US. Patent 6,032,267) and further in view of

Chowdhary et al (US. Patent 6,675,278 B1) and further in view of Faris et al (US. 5,488,359)

further in view of Jitsupou (extended memory address control system).

26.   **As to claim 7,** Hughes teaches set of memory address space (tree structure 200, col 4, ln

1-20).

27.   Hughes, Fishler, Chowdhary do not explicit teach the repository is full. However, Faris

teaches the repository is full (memory full, col 2, ln 1-35).

28.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the Hughes, Fishler, Chowdhary and Faris because Faris's memory full

would avoid unnecessary deletion of previously stored message.

29.   Hughes, Fishler, Chowdhary and Faris do not teach extended memory address. However,

Jitsupou teaches extended memory address (the extended memory, page 1).

30.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the Hughes, Fishler, Chowdhary, Faris and Jitsupou because Jitsupou's

memory full would improve access performance.

31.   Claim **8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US.

Patent 6,308,219 B1) in view of Fishler et al (US. Patent 6,032,267) in view of Chowdhary et al

(US. Patent 6,675,278 B1) and further in view of Cuthbertson et al (US. 5,524,227).

32.   **As to claim 8,** Hughes, Fishler, Chowdhary do not teach token is available in plurality of

different formats. However, Cuthbertson teaches token is available in plurality of different

formats (token types, col 2, ln 5-67).

33.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the Hughes, Fishler, Chowdhary and Cuthbertson because Cuthbertson's

token types would make message passing from and to sharing memory more consistent.

34.   Claims **14, 15, 17, 19, 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hughes (US. Patent 6,308,219 B1) in view of Fishler et al (US. Patent 6,032,267) and further in

view of Chowdhary et al (US. Patent 6,675,278 B1) and further in view of Krantz et al (US.

Patent 5,944,788).

35.   **As to claim 14,** Hughes, Fishler, Chowdhary do not teach an indication of said last

available entry address location. However, Krantz teaches an indication of said last available

entry address location(all bits space in the vector are set to 1, this indicates the message queue

for that module is full , col 16, ln 40-55).

36.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Hughes, Fishler, Chowdhary and Krants because Krants's

all bits space in the vector are set to 1, this indicates the message queue for that module is full

would indicate when message should be written to the memory.

37.   **As to claim 15,** Hughes, Fishler, Chowdhary do not teach if the repository is full,

providing an interrupt. However, Krantz teaches repository is full, providing an interrupt(the

module is full thus the sender must wait some undefined, col 16, ln 40-55).

38.   It would have been obvious to one of the ordinary skill in the art at time the invention

was made to combine the teaching of Hughes, Fishler, Chowdhary and Krants because Krants's

the module is full thus the sender must wait some undefined would make the sharing limited

queue banks in memory more consistent.

39.   **As to claim 17,** Krantz teaches an indicate (all bits space in the vector are set to 1, this

indicates the message queue for that module is full , col 16, ln 40-55).

40.   **As to claim 19,** it is an apparatus claim of claim 18; therefore, it is rejected for the same

reason as claim 18 above. In additional, Hughes, Fishler and chowdhary do not teach a false

token, a status indicating that the token was not valid. However, Krantz teaches a false token, a

status indicating that the token was not valid (an empty queue condition indicates the token value

is invalid and there was no token available, col 11, ln 25-54).

41.   It would have been obvious to one of the ordinary skill in the art at the time the invention

was made to combine the teaching of Hughes, Fishler, Chowdhary and Krants because Krants's

an empty queue condition indicates the token value is invalid and there was no token available

would indicate an error during transferring message between the systems.

42.   **As to claim 21**, it is an apparatus claim of claim 19; therefore, it is rejected for the same

reason as claim 19 above.

Response to the argument

43.   Applicant's arguments filed 4/5/2004 have been considered but are moot in view of the

new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LeChi Truong whose telephone number is (703) 305 5312. The

examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

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system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

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